

WHAT IS CLAIMED IS:

1. A process for upgrading a Fischer-Tropsch naphtha to produce a gasoline component, the process comprising:

a) hydrotreating a Fischer-Tropsch naphtha to remove oxygenates
5 producing hydrotreated Fischer-Tropsch naphtha;

b) reforming said hydrotreated Fischer-Tropsch naphtha producing hydrogen by-product and a gasoline component having a research octane rating of at least about 80; and

c) recirculating said hydrogen by-product to hydrotreat said Fischer-
10 Tropsch naphtha.

2. The process of claim 1, further comprising hydrotreating said Fischer-Tropsch naphtha using a catalyst comprising at least one of a noble metal and a non-noble metal.

3. The process of claim 2, wherein said catalyst comprises a noble
15 metal selected from the group consisting essentially of Pd, Pt, and combinations thereof.

4. The process of claim 2, wherein said catalyst comprises a non-noble metal that is sulfided in form.

5. The process of claim 2, wherein said non-noble metal is sulfided
20 with dimethyldisulfide.

6. The process of claim 2, wherein said non-noble metal is selected from the group consisting essentially of Ni, Co, W, Mo and combinations thereof.

10059381.013102

7. The process of claim 1, wherein said gasoline component has a research octane rating of at least about 90.

8. The process of claim 1, wherein said gasoline component comprises at least about 10% aromatics.

5 9. The process of claim 1, wherein immediately prior to hydrotreatment, said Fischer-Tropsch naphtha comprises at least about 1 ppm sulfur.

10. The process of claim 9, wherein said Fischer-Tropsch naphtha comprises at least about 10 ppm sulfur.

10 11. The process of claim 1, wherein prior to hydrotreatment said Fischer-Tropsch naphtha is mixed with a petroleum-derived naphtha to obtain a blended naphtha having a sulfur level of at least about 1 ppm.

12. The process of claim 11, wherein said blended naphtha has a sulfur level of at least about 10 ppm.

15 13. A gasoline component having a research octane rating of at least about 80 produced by the process of claim 1.

14. The process of claim 1, further comprising providing additional hydrogen to supplement the hydrogen by-product obtained from said naphtha reformation for hydrotreating said Fischer-Tropsch naphtha.

20 15. A process for upgrading a Fischer-Tropsch naphtha to produce a gasoline component, the process comprising:

10059381.013403
2013.07.19

a) hydrotreating a Fischer-Tropsch naphtha, using a catalyst comprising at least one of a noble metal and a non-noble metal, producing hydrogen by-product and a gasoline component having a research octane rating of at least about 90 and comprising at least about 10% aromatics; and

5 b) recirculating said hydrogen by-product to hydrotreat said Fischer-Tropsch naphtha.

16. The process of claim 15, wherein immediately prior to hydrotreatment, said Fischer-Tropsch naphtha comprises at least about 1ppm sulfur.

10 17. A gasoline component having a research octane rating of at least about 90 produced by the process of claim 15.

~~18.~~ A process for upgrading a Fischer-Tropsch naphtha to produce a gasoline component, the process comprising:

15 a) hydrotreating a Fischer-Tropsch naphtha to remove oxygenates producing hydrotreated Fischer-Tropsch naphtha;

 b) reforming said hydrotreated Fischer-Tropsch naphtha producing hydrogen by-product and a gasoline component having a research octane rating of at least about 80; and

20 c) recirculating said hydrogen by-product to hydrotreat said Fischer-Tropsch naphtha;

 d) wherein said Fischer-Tropsch naphtha is a blended naphtha, having a sulfur level of at least about 1ppm, obtained by mixing said Fischer-Tropsch naphtha with a petroleum-derived naphtha.

25 19. The process of claim 18, wherein said blended naphtha has a sulfur level of at least about 10ppm.

10059381.013102

20. A gasoline component having an octane rating of at least about 80 produced by the process of claim 18.

201210-1826500T